

Grazing Management During and After Extended Drought

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It's income tax season again, so maybe it's appropriate that we're talking about drought. To me, drought and taxes have a lot in common: they're both facts of life that must be dealt with periodically; they're both royal pains in the rear; and they both carry serious consequences if we choose to ignore them.

Most ranch businesses can readily adjust to one or 2 dry years in a row, and I don't believe that short-term drought necessitates major changes to most ranch grazing plans. However, 3 or more successive dry years challenges even the best graziers, and unfortunately this situation now faces many range livestock producers across our state. Besides the immediate concerns about how the livestock are going to be fed, serious drought also stresses the land, often to the brink of change.

Years can pass without much apparent change to seeded pastures and rangelands, but extended drought can cause dramatic shifts in vegetation. The land then remains relatively unchanged until the next environmental trigger occurs. Drought conditions over the last 3 or 4 years have created an environmental trigger for Montana's pastureland and rangeland, and failure to care for the land during this year may create serious consequences for decades to come.

Assess Drought Impact. How much of an adjustment is needed to your ranch grazing plan for Spring and Summer 2001? The answer depends, of course, upon how hard you've been hit by drought. The current drought has not impacted everyone to the same extent, and even pastures or portions of pastures within one ranch have not been affected equally. Consider these questions to assess drought's impact:

Were weeds a problem before the drought? If weeds were a problem before the drought, they'll probably be even worse after drought. Drought stresses all plants, but weeds are usually stressed less than desirable forage plants because most weeds grow earlier in the growing season before soil moisture is fully depleted. Also, weeds are usually grazed less than other plants. When rainfall does occur, weeds are in better shape to respond and they get a jump-start on the desirable plants. Producers need to be especially vigilant

about new weed infestations if they brought in hay from new sources this past fall and winter. Inspect areas where the hay was fed and plan to control new infestations this summer--before weeds get well established and before weed control becomes more costly.

Were poisonous plants common before the drought? Poisonous plant problems often worsen after or during an extended drought, especially early in the growing season. Many poisonous plants are “weeds” that survive drought better than desirable forage plants, and many poisonous plants green-up early in the season (e.g., low larkspur, death camas, and locoweed). Poisonous plant infestations tend to thicken after serious drought, but toxicity problems can be more common after drought even when poisonous plants don’t increase in density. One reason for increased toxicity problems is that after a dry year there is less (if any) residual carry-over forage from the year before to buffer the toxins. Thus, dietary concentrations can reach toxic levels even when livestock don’t increase their consumption of poisonous plants. A related concern for this spring is grass tetany. Without last year’s residual carry-over grass to buffer the new green growth in the gut, grass tetany becomes more likely and strategic supplementation will be warranted.

When was the area grazed last year? One silver lining about drought years is that much more of the grazing season usually occurs after seed ripe and when plants are dormant. Plants are more tolerant of grazing during these later stages of plant development, so some plants may have endured less stress from grazing than in normal years. The plants stressed most by last year’s drought were those grazed in early summer because they were unable to regrow before soil moisture was depleted.

How heavily was the area grazed last year and in previous years? Light or moderate grazing ($\leq 60\%$ utilization) doesn’t harm most plants, nor does heavy or severe use in one year if the plants are given an opportunity to recover. Plants are stressed when heavy or severe use occurs for 2 or more years in a row. When drought breaks, plants grazed lightly to moderately in the past will recover from drought faster than plants that have been heavily grazed for many years.

Do plants appear stressed this spring? Stressed plants begin growth later and grow slower in spring, and most plants will be stressed after 3 or 4 drought years.

Consequently, turnout in spring will likely need to be later this year in many areas across our state. The rooting depth of your forage plants and the length of drought in your area can help you judge how long plant growth will be delayed this spring. After one or 2 dry years, growth usually begins earlier in deep-rooted versus shallow-rooted plants because deep-rooted plants had access to more soil water and were less stressed. After an extended drought, however, deep-rooted plants may rebound slower because they remained green longer into the growing season and probably received extra grazing pressure during drought.

Potential Grazing Strategies During and After Extended Drought. Early planning will enable you to carefully consider potential alternatives for your grazing plan this summer. Waiting to plan until June or July will leave fewer options available. Potential options include *Graze Somewhere Else*, *Reduce the Amount of Forage Needed*, and *Adjust the Timing of Grazing*.

Graze Somewhere Else

3Lease additional pasture.

3Use tame pastures, especially subirrigated or irrigated ones, more heavily than usual. The improved forage species can tolerate heavy grazing more so than native rangeland, so allocate more of the load to those pastures that can tolerate it best.

3Try to graze areas this year that didn't get much or any grazing use last year. For example, consider areas near reservoirs and springs that went dry last year. These areas may have been grazed less than in a normal year when water is available. Herding, supplemental feeding, hauling or piping water, temporary fencing, or shutting off water in over-used areas can all be used to control where livestock graze. Be sure to carefully evaluate the costs and benefits of these practices versus the costs and benefits of reducing livestock numbers.

Reduce the Amount of Forage Needed

3Cull more heavily before the grazing season begins and before the market becomes glutted. Reduce the number of replacements if possible. Mature cows will survive and reproduce better than young cows or heifers that are still growing.

3Wean calves early. Dry cows consume about 35% less forage than lactating cows and 400-lb calves consume about one-third as much as mature cows.

Adjust the Timing of Grazing

3 Delay turnout in spring so that forage plants can recover vigor. Delayed turnout will also lessen problems with poisonous plants and grass tetany.

3 In rotational grazing systems, rotate more frequently.

3 Consider using any rested pastures and thereby spreading the use this year across all of your pastures.

3 For early season grazing this year, try to graze any areas that were ungrazed last year or those areas that were grazed after plant dormancy during last summer's drought.

3 For late season grazing this year, try to use those areas that were grazed heavily last year before plant dormancy.

Here is another tidbit that may help. A simple, but reliable way to estimate grass production in Montana is to look at the total of April+May+June precipitation. Compare this year's amount to the long-term median total for April+May+June for your area (Note: the median is a much better reflection of "normal" than the mean). The percentage of April+May+June rainfall that you receive correlates very well to the amount of grass you'll have in summer. For example, if in Spring 2001 the April+May+June rainfall equals 75% of the long-term median April+May+June rainfall, then you'll likely have 75% of your normal grass production in Summer 2001. However, this year the grass total would probably be a little less than 75% because plants have been stressed by the extended drought.

You can also use this approach for risk management. For example, if you normally get 4 inches of rain in April+May+June, and you don't get any rain in April 2001, you can look at the long-term weather records and see how often you get 4 inches in May+June alone. Has this ever happened before? What's the likelihood that it will happen in 2001? Then let's say you get 2 inches in May, now you can look at the long-term records and see what's the likelihood that you'll get 2 inches in June, so that by the end of April+May+June you have received your 4 inches total.

Hopefully this approach makes sense. This method doesn't give you a lot of lead time, but it does provide information for making contingency grazing and marketing plans.